

Program of Distinction Category: Science, Engineering and Technology Literacy Categories

- Natural Resources Education

Title of the Program: Eagle's Nest/Owl's Roost Environmental Discovery Day Camp

Rationale for Program: 2004 was the 30th season of Eagle's Nest/Owl's Roost (ENOR). The program gives 4th and 5th grade students the opportunity to experience Colorado's natural and cultural history through hands-on, out-of-doors experiences.

Colorado's Front Range communities have experienced exponential growth and development over the past few decades. Much of this growth is due to migration from other parts of the country and immigration from other countries. ENOR exposes students to the natural and historical wonders that have brought many of their families to the state and provides a direct educational venue for teaching residents and newcomers alike what natural resources mean to life in Colorado. ENOR addresses a pressing need and an immediate opportunity to educate future homeowners, small acreage managers, and decision-makers about sustainable ecological techniques and wise-use practices.

Program Description and Design: ENOR, recognized by the State of Colorado as a licensed day care provider, is developed to provide unique standards-based curriculum to campers each day of the week. Formulated in conjunction with Jefferson County school personnel, the curriculum covers topics that include areas of science, math, history, and the arts. The program is coordinated by the 4-H/Natural Resources Agent in Jefferson County in cooperation with personnel from the Jefferson County School District, Jefferson County Open Space Parks, Colorado State Parks, The Colorado Division of Wildlife, The Army Corps of Engineers, Jefferson Conservation District, and The Gilded Lilies Acting Troupe.

Each camper (approx. 350 per summer) attends the program for one week and is transported each day from a central location to a variety of sites via Jefferson County school buses. Over 13,000 students have participated in ENOR since its inception.

The educational and social themes of the curriculum and the sites the groups visit by day:

Eagle's Nest (5th Grade)

DAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
SITE	Reynolds Ranch	Golden Gate State Park	Nevadaville	Idaho Springs	St. Mary's Snowfield
SOCIAL THEME	Friendship	Listening	Respect	Cooperation	Teamwork
ENVIRONMENTAL EDUCATION THEME	Trees	Wildlife	Colorado History	Geology	Forests and Alpine Ecology

Owl's Roost (4th Grade)

DAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
SITE	Chatfield Lake Recreation Area	White Ranch Open Space Park	White Ranch Open Space Park	Elk Meadow Open Space Park	Mt. Evans/ Chicago Creek Campground
SOCIAL THEME	Respect for the Environment	Good Listener/ Good Learner	Friendship/ Communication	Teamwork/ Cooperation	Review of Social Themes
ENVIRONMENTAL EDUCATION THEME	Water Resources	Outdoor Survival Skills	Homes and Habitats	Sun and Energy Resources	Environmental Change/Adaptations (beaver focus)

Knowledge and Research Base Used for Program Content and Design:

The ENOR curriculum has been developed and refined over the 30 years of program operation by Educational and Marketing Consultants with Colorado State University, Jefferson County Cooperative Extension, and Jefferson County R-1 School District. Activities and initiatives used in the curriculum come from a variety of sources including 4-H Youth Programs at Michigan State University, Project Learning Tree, and Instructional Fair, Inc. Child development materials are used from University of Missouri-Columbia, The Jefferson Center for Mental Health, Jefferson County Family Youth Services, and The National Network for Child Care.

While some of the activities found in the program represent the “tried and true” environmental education practices of the early 1970’s, constant attention is paid to selecting activities that correlate with Colorado State Model Content Standards, the changing demographics (geographically, culturally, socioeconomically, and racially) of the participants, and the favorite activities campers recall from year-to-year.

Targeted Audience: Jefferson County 4th and 5th grade students, as well as any student living in Jefferson County during the summer months. Jefferson County student enrollment data is used to generate mailing lists and students are directly solicited for camp participation through a brochure. Other marketing efforts have been shown to be less effective than direct mailing in the past.

Program Evaluation, Program Outcomes and Impacts:

The ENOR program has been developed with objectives on five levels. These are awareness, knowledge, skills, attitude, and participation. The objectives are assessed through a series of 23 measurable student outcomes. The objectives support the educational priorities of Jefferson County Schools and they are intended to facilitate the cultivation of knowledgeable, responsible, and critical thinking participants in the local and global environmental community.

Surveys were distributed to students and parents at the end of the week to assess the campers’ learning experiences and their parents’ experience with the entire camp process, from marketing, registration, and their children’s experience.

Survey return rates for both parent (48%) and student evaluations (86%) represent a high rate of return for a post-survey and are a testament to the hard work of staff in encouraging responses from participants. These rates are similar to those of 2003, (48% and 90% respectively) and thus, the statistics should provide accurate comparison information. Parents were also given the option of mailing in surveys, which resulted in minimal, but some additional and valuable feedback.

Summary of Program Efforts:

Learning Experience

Campers were asked to write about their favorite day/activity, what they would share with family and friends about their experience, and to give an example of what they could do to help the environment. Sliding down St. Mary’s Snowfield, visiting the Colorado School of Mines’ (CSM) Edgar Mine, and touring Nevadaville (Colorado History Day) were the top three days/activities for Eagles. Owls enjoyed Chatfield Dam, visiting the Division of Wildlife fish hatchery, learning about animal habitats at White

Ranch through various games and activities, and many indicated a great appreciation of the creative skits that the Owl Educators devised to accompany various lessons.

In addition to having fun, campers evidently learned from their camp experience. One hundred percent of the Eagle's and 97 percent of Owl's were able to write about their favorite learning experiences. Ability to name plants or animals, an increased understanding of the food chain and food webs, and historical, geological or earth resources (water, soil, energy etc.) facts were the most commonly listed.

Intentions to act in a more environmentally conscious manner were also evaluated. One hundred percent of the Eagle's and 98 percent of the Owl's listed at least one action they could take to help the environment. Picking up trash, conserving water, recycling, not stepping on lichen covered rocks, and practicing leave no trace ethics were commonly mentioned. In addition, 99 percent of Eagle's participants and 97 percent of Owl's participants were able to write about one practice they will teach or share with their families, indicating an indirect and potentially far-reaching long-term effect of the camp on participants and their families. Campers recalled skills such as compass reading, tree and wildflower identification, safely observing and interacting with wildlife, and environmental education games and activities they enjoyed during the week.

Parental Communication

The first three questions on the parent survey are designed to test whether the campers were able to understand key messages of the program. Positive responses from both Eagles and Owls indicate that ENOR staff is effectively teaching the standards-based curriculum and program content and that these environmental practices are being shared with family members (parental surveys are completed by students and parents together).

The fourth question on the parent survey is a key indicator that camper participation is affecting family knowledge and behavior. It indicates that "as a result of my child attending this program, our family will adopt at least one wise environmental practice in our home (e.g. recycling, hiking on Open Space, discussing environmental issues)". Eighty-nine percent of Eagles and 91% of Owls respondents agreed or strongly agreed with this statement, which bodes well for the overall long-term objectives of the program.

Questions five through eight refer to staff/parent communication and overall satisfaction with the program. These responses were all over 91% for both programs indicating that instructions to the parents were clear, the fee was compatible with the quality of the experience, the staff was friendly, caring and qualified and that the campers' experience was a positive one.

It is clear through an analysis of the data that ENOR campers are gaining the knowledge they need to become independent problem solvers when it comes to matters of ecological importance within their own communities. Not only are they becoming critical thinkers, but also they are sharing their enthusiasm and experiences with their parents and peers, spreading the message of environmental stewardship far and wide.

Suggestions for Replication of Program in Other Settings: With appropriate cooperation of local schools and various park personnel, this program could be replicated virtually anywhere. While it would be optimal to have expanses of natural areas available, many of the themes can be adapted for indoor use. The cooperative nature of team-building concepts and the implicit goals of heightening environmental awareness are components of ENOR that should be present in every child's educational experience. Programs could be developed with these goals in mind that do not necessarily require the students to be in an outdoor setting.

Sources of Funding: Campers pay a registration fee of \$130 per week, which allows for a predominantly self-sustaining program. Jefferson County and Colorado State University cooperatively provide additional support. Limited, need-based funding is provided through grants and fundraising efforts by a non-profit support group, Friends of ENOR, Jefferson Conservation District, and Colorado State University's 4-H Urban Expansion Grant.

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